



New York NEMO Program

The New York NEMO Program (Nonpoint Education for Municipal Officials) is an educational program for land use decision makers that strives to reduce nonpoint pollution by illustrating the connection between land use and water quality. Our goal is to provide communities with information that will assist them in protecting their natural resources while meeting land use needs.

The Nissequogue River: *A River of Special Significance*

The Nissequogue River, at 8.3 miles in length, is one of the four major rivers on Long Island. Located in Suffolk County, it originates within the Ronkonkoma Moraine, just west of Hauppauge. Its drainage area is within the villages of Nissequogue, The Branch, and Head of The Harbor and the towns of Islip and Smithtown. Fed by natural coldwater springs, it flows northwest up into the Long Island Sound at Smithtown Bay. Many aspects of the Nissequogue are noteworthy, including the soils, topography and geology of the lands that drain to it. Features include steep slopes and clay layers under the soil.

The Nissequogue's resources are rich, unique and regionally important. As a result, New York State has officially recognized certain areas within the river's drainage basin as being of statewide significance. Its special designations include:

- ▶ Regionally Important Natural Area
- ▶ Significant Coastal Fish and Wildlife Habitat
- ▶ Scenic and Recreational River
- ▶ Important Bird Area

Fish and Wildlife

The Nissequogue River flows through a number of terrestrial and aquatic ecosystems such as freshwater springs, dunes, wetlands, hardwood forests and a rare Atlantic white cedar swamp. Most importantly, it provides nourishment and habitat for a rich diversity of life including numerous fish and wildlife species. Its area provides essential nesting habitat for several species of birds including piping plover, common tern, American black duck, clapper rail, osprey, herons and egrets. It is also important as a waterfowl wintering area, particularly for ring-necked duck, greater and lesser scaup, canvasback and red-breasted merganser. At least 12 species of warblers have been known to breed in the red maple swamps in the river corridor. The Atlantic white cedar swamp is habitat for Hessel's hairstreak, a regionally rare butterfly.

The river is a productive area for finfish and shellfish as well, especially as a nursery or feeding area for trout, menhaden, bluefish, striped bass, scup, winter flounder and blackfish, and there are abundant beds of hard-shelled clam, soft-shelled clam and American oyster. Northern diamondback terrapin nest in the sandy shores of the river near the mouth and use the salt marshes for cover and feeding.



The Nissequogue River



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Conservation Issues

While much of the river corridor is undeveloped and in public or protected ownership, significant development and activities within the drainage basin impact the river's water quality. As mentioned above, soils around the Nissequogue are unusual in places and, where clay layers are present, typical percolation of water into the soil is prevented. This results in a greater concentration of contaminants flowing from roads, parking lots, businesses and homes into the river. Further, residential septic systems are of particular concern in such areas where wastewater effluent may reach the river (via groundwater) without having undergone the necessary cleansing in the soils. The presence of coliform bacteria, typically associated with the presence of human and animal waste, contributes to the closure of shellfishing beds around the Nissequogue. Runoff from roads and development sites has also introduced high levels of sediment into the river, which impairs wetland habitats. Recreational use of the river corridor and the sand beaches and waters at the mouth is high, often resulting in disturbances to wildlife.



Recommendations

Although several localities have been at the forefront in implementing protective measures, concerns remain. Citizens and local government officials will need to strengthen and expand their efforts if continued degradation of the Nissequogue's valuable resources is to be minimized. Some measures for local governments to consider include: strengthened implementation of ecologically sound zoning and planning policies, minimization of land disturbance and impervious surfaces, cooperative conservation and management agreements among landowners, controls to ensure proper septic system function, municipal pollution prevention measures and structural best management practices. Citizens play a vital role and can minimize the pollutants they generate by properly disposing of household chemicals, appropriately applying fertilizers and pesticides and regularly maintaining their septic systems. Citizens are also encouraged to support the implementation of municipal storm water management plans.

The Nissequogue's Future: Partnerships

Leveraging of time, personnel, equipment and financial resources is essential if continuing efforts are to be cost-effective. Past investments and achievements in the protection of the Nissequogue can best be built upon through planned, consistent, cooperative means. Multi-jurisdictional efforts, undertaken jointly by governments, nonprofits, businesses, academia and citizens within the river's drainage basin, will succeed. Partnerships and proactivity are essential in order to prevent the often unforeseen negative impacts that haphazard decisions or inattention will bring.

Reference

Northeast Coastal Areas Study: Significant Coastal Habitats of Southern New England and Portions of Long Island, New York. August 1991, U.S. Fish and Wildlife Service, Southern New England - Long Island Sound Coastal and Estuary Office.

Related Fact Sheets

- ▶ The New York NEMO Program
- ▶ Nonpoint Source Pollution
- ▶ Impacts of Development on Waterways: Linking Land Use to Water Quality



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